



Early discussion across resource disciplines is necessary to integrate studies and search for “elegant solutions” that provide for multiple resources. (Left) Rainbow Falls Powerhouse on New York’s Ausable River, site of a 2005 controlled flow study.



Above: Studies on Oregon’s Klamath, a National Wild and Scenic River, may help design a flow regime that balances several “outstandingly remarkable” ecological and recreation values.

Relicensing activities may put water back in rivers. Right: Whitewater releases are planned for this segment of California’s Pit River (1,850 cfs is shown).



Integration and Trade-Offs: Combining Resource Values

The ultimate usefulness of studies depends on whether high quality information is provided to utilities, agencies, and stakeholders so it can be integrated with findings from other resource areas. A common shortcoming is that true “integration” is not specifically designed into relicensing processes. Most relicensing efforts include substantial numbers of meetings designed to track the overall effort, but these tend to focus on decision-making structures and reviews of study progress (e.g., schedules, budgets). They often fall short on sharing findings or implications across resource areas, and sometimes miss opportunities to work across disciplinary boundaries and seek “elegant solutions.”

Within resource areas, work groups tend to focus on specific findings and implications, rarely scheduling time to consider how those dovetail with information from other work groups. Periodic “cross-pollination” sessions focused on other resource areas would be helpful.



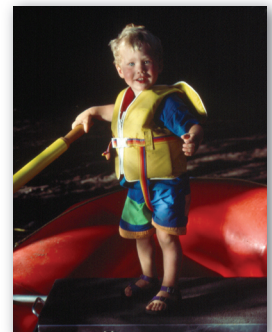
The timing of these sessions is also important. Integration that only occurs toward the end of the process as a massive license application is put together (with findings from dozens of studies) is less likely to be successful. In addition to encouraging consistent cross-discipline terminology and core information, earlier information sharing may provide opportunities for researchers in one area to assess flow regimes that researchers in another resource area are considering. In an ideal world, sufficient information about the effects of any flow regime would be prepared for each resource area; in reality, scientific information can

only address a limited number of alternative “scenarios.” The challenge is developing “relevant” alternatives early in the process.

Earlier discussion among work groups also encourages less adversarial integration of findings and aids in the search for “elegant solutions” that may provide for multiple resources. If agencies and stakeholders only hear proposals from work groups at

the end the relicensing process, positions may already be “hardened.” The sooner everyone learns about potential proposals (or the range of potential proposals), the easier it is to systematically design studies to address the issues and clarify advantages and disadvantages.

A final consideration in effectively using flow-recreation information is encouraging distinct roles among participants. One challenge here is to ensure that scientific information is developed by researchers who are not advocates. Utilities, agencies, or stakeholders then use that information to inform their positions, which may be competing or adversarial. While utilities are responsible for collecting flow-recreation information or hiring consultants to conduct associated studies, it is important that all parties perceive those studies as unbiased. The study options discussed in this paper suggest ways that utilities, agencies, and stakeholders can participate in these efforts.



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Flow-recreation studies also may be important in water rights and navigability adjudications.

Above: Studies formed the basis for a water rights settlement that protects flows for recreation opportunities, aquatic habitat, and beach formation on five National Wild and Scenic Rivers in Idaho (the Main Salmon shown here).



Flows in Grand Canyon have profound effects on whitewater, camping, beaches, time for exploring, and naturalness. Flow-recreation studies were pioneered here in the early 1980's and they continue today.

